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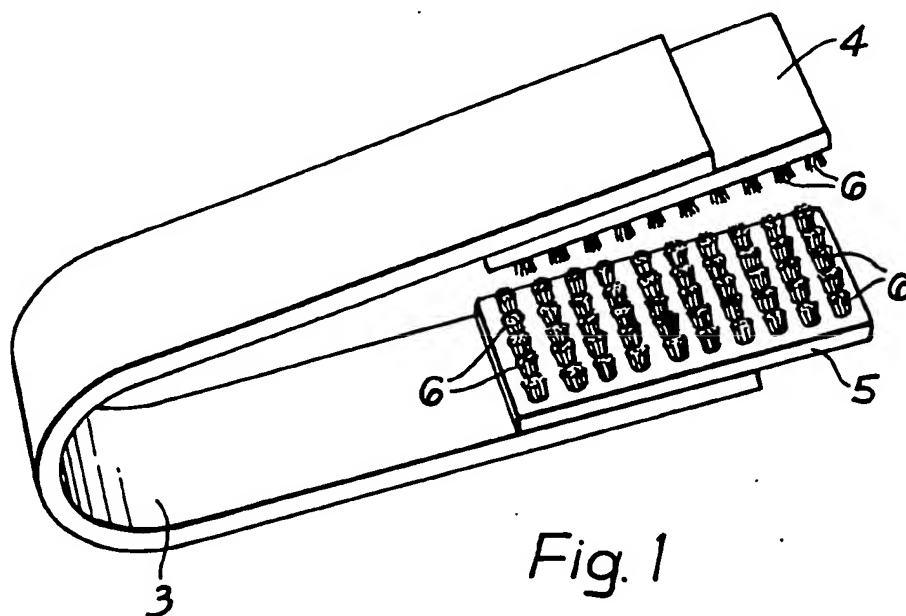
(71) Applicant
Leslie Lowery,
5 Ashmore Terrace, Sunderland, Tyne and Wear

(72) Inventor
Leslie Lowery

(74) Agent and/or address for service
Urquhart-Dykes & Lord, Floor B, Milburn House, Dean
Street, Newcastle upon Tyne NE1 1LE

(54) Hair treatment device

(57) A hair treatment device, by means of which curled hair may be at least temporarily straightened, comprises two brush or comb sections which are so disposed in opposed face-to-face relationship as to be able to interpenetrate each other and are resiliently sprung apart, and means for effecting interpenetration of the sections. In one form of the device, brush sections having clumps of bristles which are relatively displaced in the opposed sections are mounted at opposite ends of a resilient U-shaped or V-shaped handle.



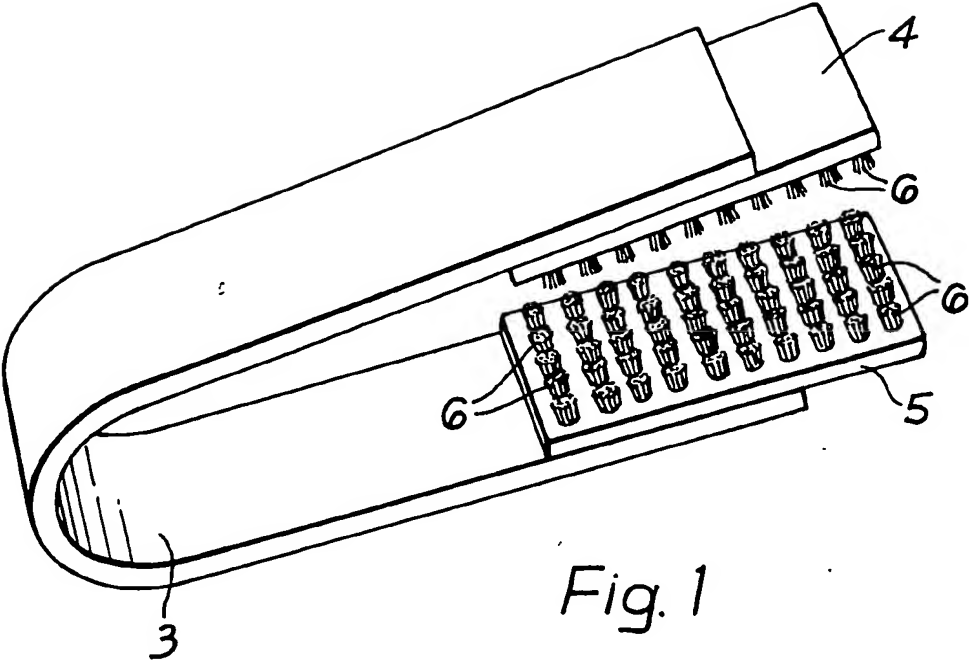


Fig. 1

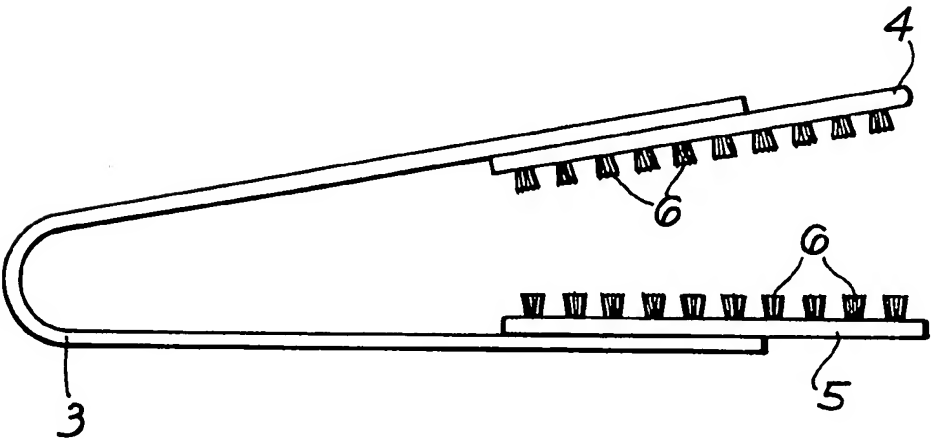


Fig. 2

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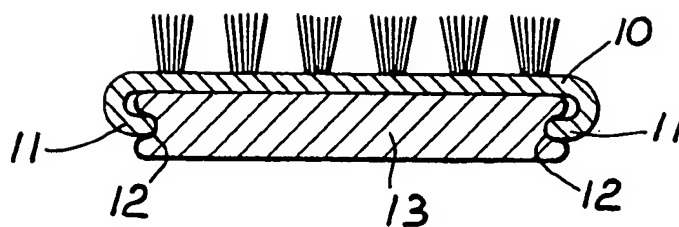


Fig. 3

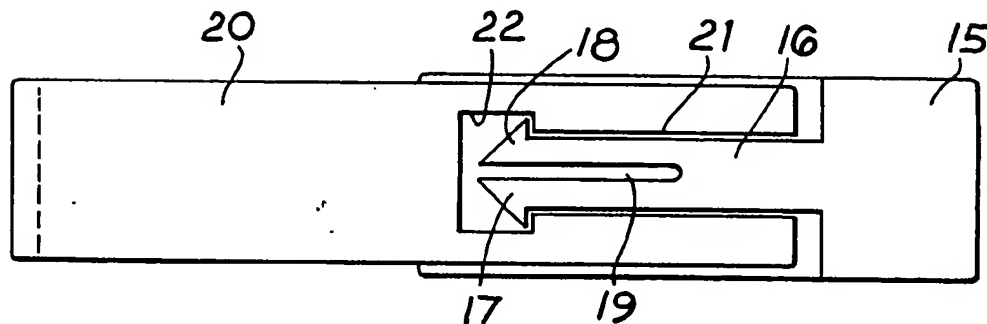


Fig. 4

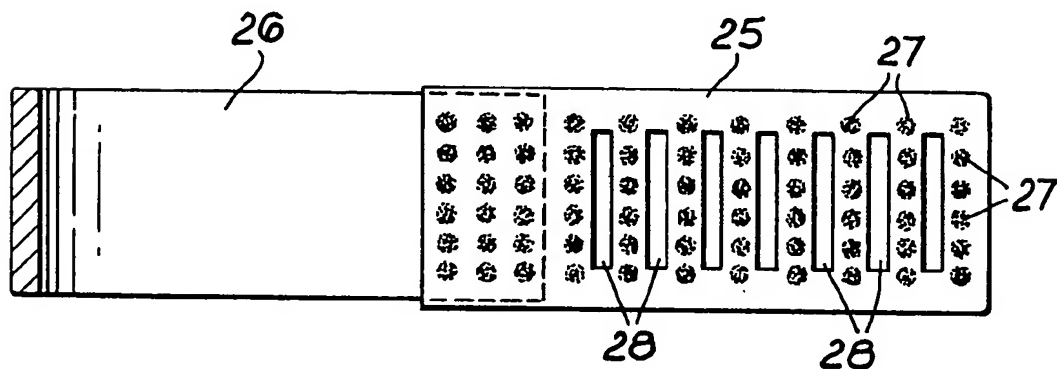


Fig. 5

SPECIFICATION

Hair treatment device

The present invention is a hair treatment device,
5 by means of which curled hair may be at least temporarily straightened.

The changing demands of fashion and personal preference require that the hair style of an individual should be capable of being changed, in many cases
10 irrespective of the natural tendency of the hair towards curl or straightness in a given person. Many systems and devices are available for imparting a curl to straight hair but the reverse change is less readily and/or less satisfactorily effected.

Thus while hair which is naturally curly or which has been curled may be rendered more straight by wet-scrubbing with a brush, a lot of damage to the hair may be caused in the process. Indeed regular brushing of the hair to keep it straight may have the
20 opposite effect of actually encouraging the hair to curl, at least towards its ends.

It is therefore an object of the present invention to provide a hair treatment device by means of which the hair may be rendered more straight, at least for
25 an acceptable length of time.

The hair treatment device according to the present invention comprises two brush or comb sections which are so disposed in opposed face-to-face relationship as to be able to inter-penetrate
30 each other and are resiliently sprung apart, and means for effecting the interpenetration of said sections. Conveniently, this latter interpenetration means is a manual means.

The brush sections may be conventional brush
35 sections with natural or synthetic bristles, set individually or preferably in clumps, or may be in the form of wire or rubber prongs set in a suitable base. Preferably each brush section extends uniformly from a base which is rectangular, square,
40 circular or elliptical or similarly proportioned in the plane from which the bristles or the like extend. That is, it is preferred that the brush section should not be unduly narrow in either direction. If, instead of brush sections, comb sections are chosen, then
45 preferably each comb section comprises at least two combs in generally parallel alignment.

If desired, the device may comprise one brush section and one comb section, disposed as aforesaid.

As indicated, the brush or comb sections are in
50 opposed face-to-face relationship and are so disposed as to be able to interpenetrate each other. It is particularly preferred to employ brush sections with the bristles set in clumps which are displaced
55 relative to each other in the opposed sections so that, when the sections are brought together, no clump in one section is axially aligned with a clump in the other section, thereby enabling the respective clumps to pass each other without impediment.

The brush or comb sections are resiliently sprung
60 apart and means, preferably manual means, are provided for effecting the inter-penetration of the sections. A particularly convenient way of achieving these ends is to mount the sections at opposite ends
65 of a resilient U-shaped or V-shaped handle. The

handle may be made of springy metal or plastics material such that, when the handle is squeezed, the sections interpenetrate and, when manual pressure is removed, the sections move apart.

In general, the device according to the present
70 invention is used by placing a number of tufts or strands of hair between the brush or comb sections, closing the sections together with the hair between them and then drawing the device along the hair in a
75 direction away from the head, before eventually releasing the manual pressure on the device and subsequently repeating the exercise. During many successful experiments, devices according to the invention have proved to give excellent results.

The hair treatment device according to the invention is suitable both for domestic use and for use by professional hairdressers. Thus a hairdresser may conveniently use one or several such devices in his/her work or may use two or more different forms
80 of the device in different situations.

I have found that it is particularly desirable to use different types of brush or comb sections for different cuts and qualities of hair and I have therefore devised a specific form of the device with
90 that in mind. Accordingly, one form of the device is characterised by the fact that at least one of the brush or comb sections is removable. Preferably both brush or comb sections are removable.

Thus one or both of the brush or comb sections
95 may be slidable on to and off the device, for example by means of internally-projecting edges engaging in grooves in the device. Preferably the manner of fitting, whether it be by sliding or using some other form of attachment, is such that the
100 brush or comb section is removably retained in position by a clip feature, either a separate retaining clip or a resilient or sprung clip integral with the section or with the device itself.

Using a removable brush or comb section makes
105 it possible to exchange one style of section for another and thereby adapt the device to the specific needs of the situation. Thus for use on longer hair, it becomes possible to replace a brush section of a given size by a wider section, thereby increasing the effective brush area. In this wider brush section, the same number of bristles or tufts of bristles may be spread over the wider area or one or more extra rows of bristles may be included in the brush section.

The hair treatment device according to the invention will normally be used in conjunction with a hair drier, which renders the hair more supple and therefore more responsive to treatment. The treatment is more effective when applied to hair
120 which is wet but the device may also be used on dry hair, especially when the purpose is to freshen or restore hair which has previously been treated. In either situation, I have found it to be advantageous to assist the hot air from the hair drier to penetrate the hair by providing one or more apertures in at least one of the brush or comb sections. Preferably only one of the sections is apertured in this way. The apertured area preferably extends throughout the length of the brush or comb section and the
125 apertures are preferably so placed as not to reduce

the effective area of the section. Thus in a particularly preferred embodiment of the invention the apertures are elongated transverse to the length of the brush section and located between the rows of tufts of bristles.

5 The invention will now be further described with reference to the accompanying drawings, in which:—

Fig. 1 is a perspective view of a first embodiment of hair treatment device according to the present invention;

Fig. 2 is an elevation from one side of the device illustrated in Fig. 1;

Fig. 3 is a transverse sectional view of one form of removable brush section fitted upon a hair-straightening device according to the invention;

Fig. 4 is a plan view of another form of removable brush section fitted in place; and

Fig. 5 is a plan view of a further embodiment of hair-straightening device according to the invention, having apertures in the brush section.

The device illustrated in Figs. 1 and 2 comprises a U-shaped handle 3 of resilient plastics material, which has mounted on the inward-facing surfaces of its free ends a pair of brush sections 4, 5. Each brush section comprises a large number of clumps 6 of short, firm bristles. The clumps in brush section 4 are staggered relative to those in brush section 5 such that, when these sections are brought together by squeezing the handle 3, the clumps in opposing brush sections are not in axial alignment and can pass each other to overlap.

The device adopts the position shown in Figs. 1 and 2 when at rest; that is, the brush sections are spaced apart when the handle is not squeezed. When the device is to be used, it is held with a number of strands of hair between the brush sections, the device is closed by squeezing the handle and the device is then drawn along the hair in a direction away from the head. The pressure on the handle is then released and the exercise is repeated.

The brush section 10 shown in cross-section in Fig. 3 has edges 11 which are curved under as shown and can therefore engage in grooves 12 in the sides of a resilient handle 13. Thus the brush section 10 can be slid lengthwise on to and off the handle 13 to allow it to be interchanged with alternative brush sections as desired.

The brush section 15 of Fig. 4, viewed from the rear, has upon its back an upstanding elongated rib 16 terminating in a tapered head 17 having barbs 18. The rib 16 has a linear slot 19 which allows the sides of the rib to be squeezed together resiliently. The handle 20 of the device has an elongated cut-out 21, which at its inner end has a shouldered cavity 22. The respective dimensions of the rib 16 and cut-out 21 are such that, when the rib is inserted into the cut-out, the barbs 18 resiliently engage the shoulders of the cavity 22 and retain the brush section 15 in place upon the handle 20. The brush section is readily released by squeezing together the sides of the rib 16.

Fig. 5 shows, viewed from the bristle face, a brush section 25 secured in place upon a resilient handle

26. The tufts 27 of bristles are arranged conventionally in rows and inter-spersed between the rows in that part of the brush section 25 which does not overlap the handle 26 are transverse elongated apertures 28. In use of the device, hot air from a hair drier is admitted to the air via the apertures 28.

Careful experiments have confirmed that regular use of the device according to my invention, at least once a day, succeeds in satisfactorily maintaining straight-hair styles in hair which, left untreated, tends to settle in curls.

CLAIMS

1. A hair treatment device comprising two brush or comb sections which are so disposed in opposed face-to-face relationship as to be able to interpenetrate each other and are resiliently sprung apart, and means for effecting the interpenetration of said sections.

2. A device as claimed in claim 1, wherein each brush section comprises a plurality of bristles set in clumps.

3. A device as claimed in claim 2, wherein said clumps of bristles extend uniformly from a base which is rectangular, square, circular or elliptical or similarly proportioned in the plane from which the bristles extend.

4. A device as claimed in claim 2 or claim 3, wherein the clumps of bristles are displaced relative to each other in the opposed sections.

5. A device as claimed in any of the preceding claims, wherein the means for effecting interpenetration of the brush or comb sections is a manual means.

6. A device as claimed in claim 5, wherein said manual interpenetration means comprises a resilient, generally U-shaped or V-shaped handle having the respective brush or comb sections mounted at its opposite ends.

7. A device as claimed in claim 6, wherein said handle is of springy metal or plastics material.

8. A device as claimed in any of the preceding claims, wherein at least one of the brush or comb sections is removable.

9. A device as claimed in claim 8, wherein the at least one removable brush or comb section is slidable on to and off the device.

10. A device as claimed in claim 9, wherein the at least one removable section is retained in position either by a separate retaining clip or by a resilient or sprung clip integral with the section or with the device itself.

11. A device as claimed in any of claims 8 to 10, including a plurality of interchangeable brush or comb sections.

12. A device as claimed in any of the preceding claims, having one or more apertures in at least one of the brush or comb sections.

13. A device as claimed in claim 12, wherein the apertured area of said at least one brush or comb section extends throughout the length of said section and wherein the apertures are elongated transverse apertures located between rows of tufts or bristles.

14. A hair treatment device substantially as hereinbefore described with reference to, and as illustrated in, Figs. 1 and 2 of the accompanying drawings.

5 15. A hair treatment device substantially as hereinbefore described with reference to, and as illustrated in, any of Figs. 3 to 5 of the accompanying drawings.

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